

Claims

- 5 1. A transgenic plant cell which is genetically modified, wherein the genetic modification is an introduction of a foreign nucleic acid molecule whose presence or expression leads to an increase in the plastidial ADP/ATP translocator activity in comparison with corresponding non-genetically modified plant cells from wild type plants.
- 10 2. The transgenic plant cell according to claim 1, wherein the foreign nucleic acid molecule encodes a plastidial ADP/ATP translocator.
- 15 3. The transgenic plant cell according to claim 2, wherein the nucleic acid molecule encodes a plastidial ADP/ATP translocator from *Arabidopsis thaliana*.
- 20 4. The transgenic plant cell according to any one of claims 1 to 3 exhibiting an increased yield in comparison with corresponding non-genetically modified plant cells.
- 25 5. The transgenic plant cell according to any one of claims 1 to 4 exhibiting an increased oil and/or starch content in comparison with corresponding non-genetically modified plant cells.
- 30 6. The transgenic plant cell according to any one of claims 1 to 5 synthesizing a starch exhibiting an increased amylose content in comparison with starch from corresponding non-genetically modified plant cells.
- 35 7. A transgenic plant containing transgenic plant cells according to any one of claims 1 to 6.
8. The transgenic plant according to claim 7, which is an oil and/or starch storing plant.
9. The transgenic plant according to claim 8, which is a maize, rape, wheat or potato plant.
- 40 10. A method for the production of a transgenic plant exhibiting an increased yield in comparison with wild type plants, wherein

- (a) a plant cell is genetically modified by means of introduction of a foreign nucleic acid molecule whose presence or expression leads to an increase in the plastidial ADP/ATP translocator activity in the cell;
- (b) a plant is regenerated from the cell produced according to step (a); and
- 5 (c) further plants are optionally produced from the plant produced according to step (b).
11. The method according to claim 10, wherein the transgenic plant exhibits an increased oil and/or starch content in comparison with wild type plants and/or
- 10 whose starch exhibits an increased amylose content in comparison with starch from wild type plants
12. A transgenic plant obtainable by the method according to claim 10 or 11.
- 15 13. Propagation material of plants according to any one of claims 7 to 9 or 12, wherein said propagation material contains transgenic cells according to any one of claims 1 to 6.
- 20 14. Use of nucleic acid molecules encoding a plastidial ADP/ATP translocator for the production of transgenic plants exhibiting an increased yield in comparison with wild type plants.
- 25 15. The use according to claim 14, wherein the transgenic plant exhibits an increased oil and/or starch content and/or synthesizes a starch exhibiting an increased amylose content in comparison with starch from wild type plants.
- 30 16. A method for the production of a modified starch comprising the extraction of the starch from a plant according to any one of claims 7 to 9 or according to claim 12.